

REMARKS

Claims 1-35 were previously pending in this application. By this amendment, Applicant cancels claims 2, 4, 6-13, 15, 19-22, 24, 25, 27, 28, and 30-35 without prejudice or disclaimer, and amends claims 1, 3, 5, 14, 16-18, 23, 26, and 29. As a result, claims 1, 3, 5, 14, 16-18, 23, 26, and 29 are pending for examination with claims 1, 14, and 18 being independent claims. No new matter has been added.

Amendments to the Claims

Claim 1 is amended to recite that the device includes, in part, a fixed-rate clock, and that the digital filter circuit is associated with at least one variable sampling rate. Support for this amendment is found, for example, in original claim 6, in the Specification at page 29, second and third full paragraphs, and in FIGS. 11a, 17 and 19.

Claim 3 is amended to recite that the digital filter circuit includes a variable-ratio decimation filter. Support for this amendment is found, for example, in the Specification at page 29, last full paragraph, and FIG. 17.

Claim 5 is amended to recite that the variable-ratio decimation filter filters a DSL protocol signal, and that the digital filter circuit further includes a second variable-ratio decimation filter that filters a POTS protocol signal. Support for this amendment is found, for example, in the Specification at page 32, last two paragraphs, and FIG. 19.

Claim 14 is amended to recite that the device includes, in part, a first sample-rate converter that converts a sample rate of a digital signal associated with a first protocol of the plurality of signal protocols, a second sample-rate converter that converts a sample rate of a digital signal associated with a second protocol of the plurality of signal protocols, and a digital to analog converter, coupled to the communication link, that outputs a single analog signal associated with both the first and second protocols in response to the two sample-rate converted digital signals. Claim 16 is amended to recite that the first sampling rate filter includes an interpolation filter. Claim 17 is amended to recite that the interpolation filter has a variable

sampling rate. Support for these amendments is found, for example, in the Specification at page 32, third full paragraph, and FIGS. 11a and 19.

Claim 18 is amended to recite that the converter is an analog to digital converter, the digital filter includes first and second decimation filters, the first decimation filter provides a first signal of the at least two separate digital signals, and the second decimation filter provides a second signal of the at least two separate digital signals. Claim 23 is amended to recite that the first signal is associated with a POTS signal protocol, and the second signal is associated with a ADSL, IDSN, or other non-POTS protocol. Support for this amendment is found, for example, in the Specification at page 32, third and fourth full paragraphs, and FIGS. 11a and 19.

Claim 26, which originally depended from claim 19, is amended to depend from claim 18 due to the cancellation of claim 19. Claim 29 is amended to depend from claim 18, and to provide consistency with amended claim 18.

Accordingly, the amendments to the claims add no new matter.

Rejections of Claims 1, 2, 7-24 and 26-35 Under 35 U.S.C. §102

The Examiner rejected claims 1, 2, 7-24 and 26-35 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,889,856 to O'Toole et al. ("O'Toole"). By this amendment, Applicants cancel claims 2, 7-13, 15, 19-22, 24, 27, 28, and 30-35. Applicants respectfully submit that O'Toole does not anticipate claims 1, 14, 16-18, 23, 26, and 29, as amended, because O'Toole does not teach or suggest all of the limitations of any one of amended independent claims 1, 14, and 18. This conclusion is supported by the following reasons.

O'Toole does not teach or suggest a device that includes a converter circuit that digitizes input signals received on a telephone line, a fixed-rate clock that provides to the converter circuit a substantially fixed-rate clock signal, and a digital filter circuit associated with at least one variable sampling rate, all as recited by independent claim 1, as amended. In contrast, O'Toole teaches an integrated line-card that includes an A/D converter (44), but provides no teaching or suggestion to combine a fixed-rate clock, a converter circuit that receives a signal from the fixed-

rate clock, and a digital filter circuit having a variable sampling rate. See, e.g., O'Toole, Abstract.

For example, O'Toole provides no teaching or suggestion to provide a clock signal to the A/D converter (44) from a fixed-rate clock. Further, for example, O'Toole teaches a decimation filter (60), a high-pass filter (62), and a band-pass filter (66), but does not teach or suggest that any of the filters (60, 62, 66) are associated with at least one variable sampling rate, in contrast to the limitations recited by claim 1, as amended. See, e.g., O'Toole, column 8, lines 31-47, and FIG. 7. Indeed, O'Toole discloses no particular features of a clock because O'Toole makes no mention of a clock.

For all the above reasons, O'Toole does not teach or suggest a device that includes a converter circuit that digitizes input signals received on a telephone line, a fixed-rate clock that provides to the converter circuit a substantially fixed-rate clock signal, and a digital filter circuit associated with at least one variable sampling rate, as recited by independent claim 1, as amended. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claim 1 under 35 U.S.C. §102(b).

Regarding amended independent claim 14, O'Toole does not teach or suggest a device that includes a first sample-rate converter that converts a sample rate of a digital signal associated with a first signal protocol, a second sample-rate converter that converts a sample rate of a digital signal associated with a second signal protocol, and a digital to analog converter that outputs a single analog signal associated with both the first and second protocols in response to the two sample-rate converted digital signals, all as recited by independent claim 14, as amended. In contrast, O'Toole teaches a transmit section of an integrated line card; the transmit section includes a sample-rate converter (72) for a voice data signal, but teaches no second sample-rate converter for a second signal protocol. See, e.g., O'Toole, column 9, lines 5-14, and FIG. 7. In particular, O'Toole teaches that an xDSL data stream is processed by a xDSL modem (70), but teaches or suggests no second sample-rate converter for the xDSL data stream. See, e.g., O'Toole, column 9, lines 43-51 (quoted below,) and FIG. 8.

The converted data stream from sample-rate converter **72** is mixed with the data stream from xDSL modem **70**. Both data streams are at a 1 MHz sample rate. The digital values for the POTS data stream can be superimposed or added to the digital values for the ADSL data stream by digital mixer **80**. Digital mixer **80** outputs the composite data stream with both the high-frequency ADSL data and the low-frequency voice data to the A/D converter for transmission over the local phone line to the customer.

For the above reasons, O'Toole does not teach or suggest a device that includes a first sample-rate converter that converts a sample rate of a digital signal associated with a first signal protocol, a second sample-rate converter that converts a sample rate of a digital signal associated with a second signal protocol, and a digital to analog converter that outputs a single analog signal associated with both the first and second protocols in response to the two sample-rate converted digital signals, as recited by independent claim 14, as amended. Because O'Toole does not teach or suggest the limitations recited by claim 14, Applicants submit that O'Toole does not teach or suggest claims 16 and 17, which depend directly or indirectly from claim 14. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 14, 16, and 17 under 35 U.S.C. §102(b).

Regarding amended independent claim 18, O'Toole does not teach or suggest a digital filter that receives a digital signal from an analog to digital converter, where the digital filter includes a first decimation filter that provides a first digital signal, and a second decimation filter that provides a second digital signal, the signals associated with respective ones of at least two signal protocols, all as recited by independent claim 18, as amended.

In contrast, O'Toole teaches a receive section of an integrated line card; the receive section includes a sample-rate converter (68) for POTS data, and a decimation filter (60) that filters both POTS and ADSL data prior to splitting. See, e.g., O'Toole, column 8, lines 31-47, and FIG. 7. The receive section, however, includes no second decimation filter associated with a second signal protocol, in contrast to the limitations recited by claims. See, e.g., O'Toole, column 9, lines 5-14, and FIG. 7. Indeed, the receive section includes only one decimation filter; O'Toole teaches that an ADSL data stream is processed by a high-pass filter (62) and a xDSL

modem (70), but teaches or suggests no second decimation filter for the ADSL data stream. See, e.g., O'Toole, column 8, lines 48-54, and FIG. 7.

Moreover, the Office action asserts in error that O'Toole discloses a digital filter "that comprises a decimator 60...associated with the ADSL rate, and a decimator 63 that is associated with the POTS rate." See Office action, page 3, fifth paragraph. O'Toole, however, only discloses one decimator 60, and discloses no element with reference numeral "63".

For the above reasons, O'Toole does not teach or suggest a digital filter that receives a digital signal from an analog to digital converter, where the digital filter includes a first decimation filter that provides a first digital signal, and a second decimation filter that provides a second digital signal, the signals associated with respective ones of at least two signal protocols, as recited by independent claim 18, as amended. Because O'Toole does not teach or suggest the limitations recited by claim 18, Applicants submit that O'Toole does not teach or suggest claims 23, 26, and 29, which depend directly or indirectly from claim 18. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 18, 23, 26, and 29 under 35 U.S.C. §102(b).

Rejection of Claims 3-6 Under 35 U.S.C. §103(a)

The Examiner rejected claims 3-6 under 35 U.S.C. §103(a) as being obvious over O'Toole in view of U.S. Patent No. 6,226,331 to Gambuzza ("Gambuzza"). By this amendment, Applicants cancel claims 4 and 6. Applicants respectfully submit that dependent claims 3 and 5, as amended, are nonobvious over O'Toole in view of Gambuzza for the following reasons.

O'Toole alone does not teach or suggest all of the limitations recited by either claim 3 or claim 5, which both depend directly or indirectly from claim 1, for the same reasons described above for claim 1.

Gambuzza alone also does not teach or suggest a device that includes a converter circuit that digitizes input signals received on a telephone line, a fixed-rate clock that provides to the converter circuit a substantially fixed-rate clock signal, and a digital filter circuit associated with at least one variable sampling rate, as recited by both claim 3 and claim 5. Since neither O'Toole

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nor Gambuzza teaches or suggests a converter circuit that digitizes input signals received on a telephone line, a fixed-rate clock that provides to the converter circuit a substantially fixed-rate clock signal, and a digital filter circuit associated with at least one variable sampling rate, the combination of O'Toole and Gambuzza does not teach or suggest all of the limitations recited by either claim 3 or claim 5.

For the above reasons, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 3 and 5, as amended, under 35 U.S.C. §103(a).

CONCLUSION

In view of the foregoing amendments and remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the telephone number listed below.

A request for an extension of time, and a check for the associated fee, are submitted herewith. If any additional fee is occasioned by this response, and is not covered by the enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

Respectfully submitted,
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